AN IMAGING SYSTEM'S WORST NIGHTMARE

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At SRS we have a Document and Imaging System that provides on-line access to over 5,000 users. This system referred, to as our Image Expansion System, houses all design documents including drawings, change paper, specifications, calculations and vendor documents. In addition, operating procedures are also available.

There are over 1,000,000 images on the system and it had taken several years to load it. As part of the program to load the system, documents were retrieved from all over the United States. Engineering firms providing design for various projects held the original and we literally sent people to get them. Once we accounted for all of the documents, we began the scanning activity, which included traditional indexing and the not so traditional process of bar-coding. All in all, the loading of the system and the education of customers to use it went quite smoothly.

A performance indicator was put in place to measure system utilization. The measurement that we were successful was established to be the increase in customer inquiries via the system and the reduction in requests filled by Document Control.

Today better than 60% of requests are filled by our customers on-line. Less than 10% are filled manually. This happens when someone is looking for a document not scanned because it was old and the project closed. However, due to the nature of our business you never know what will be asked for.

So here we are purring along with a great system. On occasion, and it was relatively rare, a document would be found in the system that should not have been there. Typically, it was scrubbed from the system and then the system brought back on-line.

However, what happened in August of 2000 was something we never planned on. Identification of a few sensitive documents led to a complete shutdown of the system. To keep the site from being without the actual documents, manual operations began, but with incredibly onerous requirements. Every document requested had to be reviewed by an expert in the field before issuance. (Figure 1)

The immediate issues began quickly. How will we keep the plant operating when the only way we can issue documents is manually? How can we get enough reviewers with the proper level of knowledge to get freed up from their current assignments and avoid spending months on this review process? The list went on and on. Further, the site processing location was declared a limited access area, only employees with security clearances were allowed entrance. Prior to the event, employees did not need clearances, the result of a major cost savings initiative to reduce clearances site-wide. In the midst of all the processing changes, we had to reassign over 75 people.

The obvious issue with this was training. Contrary to popular belief, not all Document Control activities are created equal. So we end up with people moved to areas where the document types were different and the customer requirements different and people not familiar. The end result was a snail-paced operation. Engineering, AE's, Maintenance and Work Control were brought to their knees. We were only able to provide ~20% of our normal output, requiring priority setting involving senior management participation. (Figures 2). Our only alternative was to set up a new, parallel system and then transfer documents in limited batches once they had undergone the field review.

Every document coming off the old system was reviewed, re-scanned, then issued. The next month was a series of intense activities dedicated to bringing the information back online. (Figure 3) Much of the story represents valuable lessons for all information and document managers involved in migrating from a manual to an on-line system.

Figure 1

Problem: Need to isolate and safeguard potentially classified documents on Image Expansion system

Previously Expected Response	August Response
1. Bring system down pending isolation and sanitizing	1. Repeated violations, when aggregated, suggest broad vulnerability
2. Bring system back up without "potentially" classified documents	2. Entire system is now categorized as "classified"
3. Maintain potentially classified in a classified environment pending document review	3. Every document is considered classified until otherwise determined

Figure 2

Implications of the Shutdown

Immediate

1. Network unavailable to 4,000+ registered users; customer inquiries and request all done manually.
2. Beginning immediately continuing Security support required from every division (for review of both incoming and outgoing documents)
3. Processing time for requests anticipated at days instead of hours (magnitude of slowdown cannot yet be estimated—reduction from 60 workstations to 4 workstations)
4. Volume limitations will restrict support to priority projects
5. System costs increased (e.g., Security coverage)
6. Capital procurements may be needed (e.g., redundant storage)
7. Process yet to be developed for handling check-in/check-out of CADD files
8. Unknowns yet to be uncovered

Strategic

1. All site mission activity potentially impeded—configuration management and safety eroded
2. DOE-SR position could "classify" any computer or system that has more than 20K of suspect information

Figure 3

A Tale of Two Months: The SRS Document Saga

August 4	Primary system (IE) shutdown	• approximately 530,000 drawings, procedures, and engineering files unavailable—affecting all site missions/design activity • 4,000 registered users (representing an average of 77,000 hits per month) not able to access the system • 60 document control work stations idled • requests can only be filled manually from hard copy or aperture cards
August 10	Classified System established	• Primary processing location established as a Limited Area with 24/7 Security coverage • 4 dedicated workstation functioning (no on-line access) • more than 40 clerks reassigned (Q clearances)
August 10 – 28	Initial Operation of Classified system	• only 30 – 35% of normal volume; prioritized by Deputies • approximately 1,000 requests filled versus a normal monthly average of 5,000 • turnaround times >24 hours versus normal of <4 hours • all prints requiring review before release
August 28	New Unclassified system set up	• new drives/equipment acquired, tested & programmed • initial transfer of 144,000 files completed • on-line access re-established • two systems being operated in tandem
September 22	Classified systems shut down and relocated	• Process location returned to Property Protection status • Approximately 450,000 files (85%) available on-line in unclassified system (including approximately 89,000 of 90,000 CADD files) • Stand alone classified system operational